CALIFORNIA DIVISION OF MINES AND GEOLOGY

Fault Evaluation Report FER-64

July 28, 1977

1. Name of fault: Whitney Canyon fault.

2. Location of fault: Mint Canyon and San Fernando 7.5 minute quadrangles, Los Angeles County (see figure 1).

3. Reason for evaluation: Part of a 10-year program.

4. List of references:

a) Jennings, C.W., 1975, Fault map of California with locations of volcanoes, thermal springs and thermal wells: California Division of Mines and Geology, California Geologic Data Map Series, Map no. 1, scale 1:750,000.

b) Winterer, E.L., and Durham, D.L., 1962, Geology of southeastern Ventura Basin, Los Angeles County, California: U.S. Geological Survey Professional Paper 334-H, scale 1:24,000.

c) Ziony, J.I., Wentworth, C.M., Buchanan-Banks, J.M., and Wagner, H.C., 1974, Preliminary map showing recency of faulting in coastal southern California: U.S. Geological Survey, Miscellaneous Field Studies Map MF-585, 15 p., map scale 1:250,000, 3 plates.

5. Summary of available data:

Winterer and Durham (1962) originally mapped the Whitney Canyon fault. They state (p. 337) that the age of the fault and the nature of its movements are not definitely known. Crystalline rocks have apparently been displaced about 6000 feet vertically, however, the base of the Pliocene has been displaced about 400 feet in the opposite sense (they

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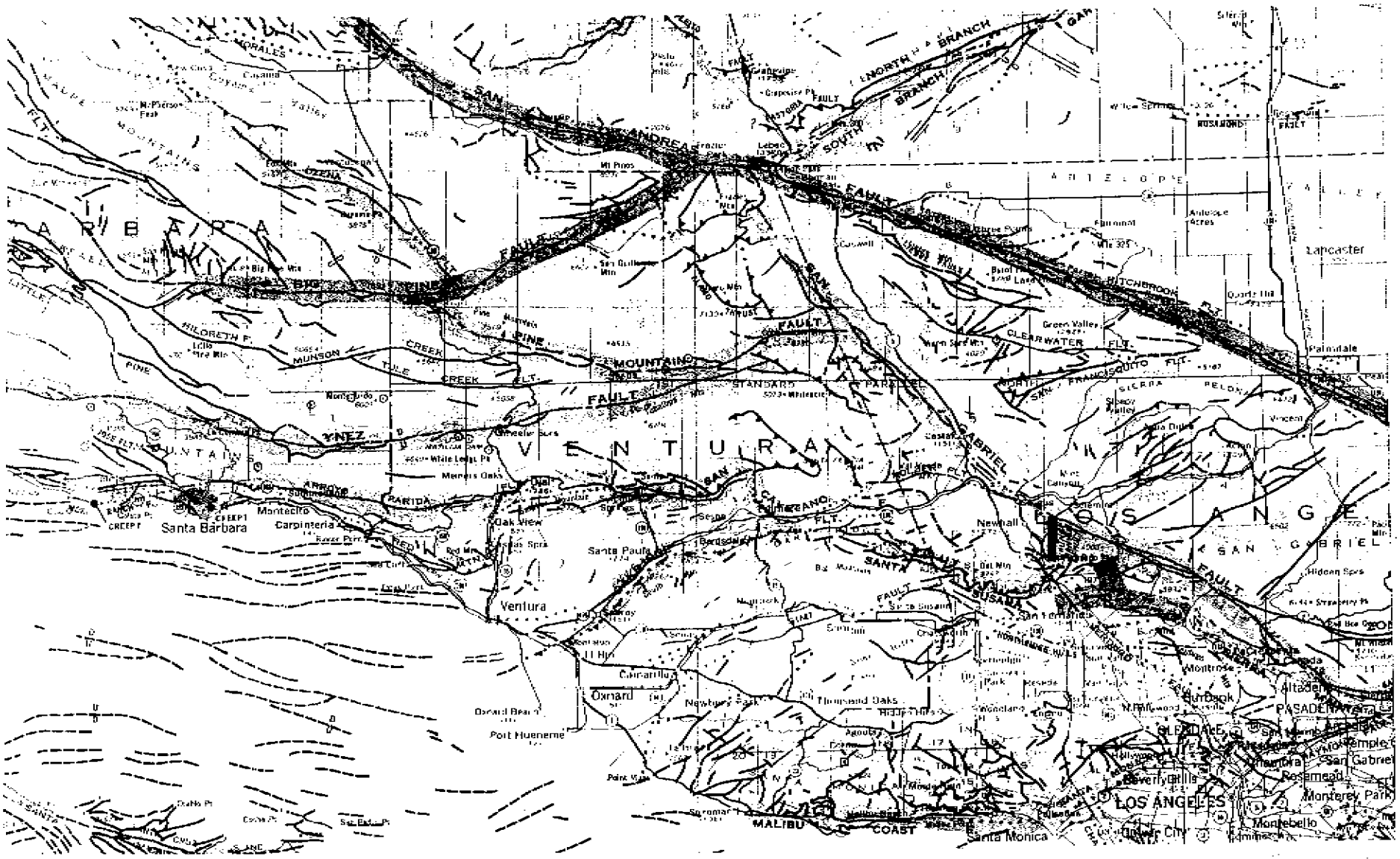
FIGURE 1. General location of the Whitney Canyon fault (Jennings, 1975, scale 1:750,000).



don't state which block is up relative to the other). The fault is not described further in their text. On plate 44 they show the fault as cutting the Saugus Formation (Plio-Pleistocene) and as buried under late Pleistocene terrace deposits.

Jennings (1975) and Ziony, et al. (1974) utilized Winterer and Durham. Jennings considered the Whitney Canyon to be a Quaternary fault. Ziony, et al. depict the fault as cutting a Plio-Pleistocene unit, however, they ignore the apparently unfaulted terrace deposit.

6. Interpretation of air photos: Not attempted.

7. Field observations: Not attempted.

8. Conclusions:

The Whitney Canyon fault appears to be a Plio-Pleistocene fault that has not been active since before, or sometime during, the late Pleistocene. Thus, the fault does not meet the present criterion for sufficiently active. Not enough evidence is available to conclude whether or not the fault is well-defined.

9. Recommendations:

Based on the data summarized in this report, and on the criteria presently being utilized, the Whitney Canyon fault should not be zoned at this time. No further work appears warranted on the part of this project's personnel; however, it should be said that the evidence available is scanty, and maybe open to question.

10. Investigating geologist's name; date:

Theodore C. Smith

THEODORE C. SMITH
Assistant Geologist
July 28, 1977

I concur with recommendations.
EHH
8/2/77